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OCCUPATIONAL EDUCATION AND TRAINING FOR TOMORROW'S WORLD OF WORK. NUMBER 1, SQUARE PEGS AND ROUND HOLES.

BY- HORNER, JAMES T. PETERSON, EVERETT E.
OHIO STATE UNIV., COLUMBUS

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A MAJOR PROBLEM OF AMERICAN YOUTH TODAY IS THAT OF QUALIFYING FOR AND HOLDING A JOB. GENERAL EDUCATION IS NOT ENOUGH FOR THE GREAT MAJORITY OF PEOPLE WHO MUST OPERATE FARMS, MACHINES, SHOPS, AND OFFICES AND PROVIDE SERVICES. YOUTH FACE INCREASED JOB COMPETITION BECAUSE OF THE INCREASED SIZE OF THE 14- TO 24-YEAR AGE GROUP. UNEMPLOYMENT AMONG YOUNG WORKERS HAS CONSISTENTLY BEEN HIGHER THAN FOR THE REST OF THE LABOR FORCE, WITH THE HIGHEST RATE AMONG 16- AND 17-YEAR-OLDS. IF PRESENT DROPOUT TRENDS CONTINUE, EIGHT OF 10 CHILDREN NOW IN ELEMENTARY SCHOOL WILL NOT FINISH COLLEGE. SCHOOL DROPOUTS COME CLOSE TO ECONOMIC SUICIDE. UNLESS YOUNG PEOPLE ARE ABLE TO INCREASE BOTH GEOGRAPHIC AND OCCUPATIONAL MOBILITY THROUGH ADDITIONAL TRAINING, THEY CANNOT ADAPT TO EMPLOYMENT SHIFTS SUCH AS THOSE IN AGRICULTURE AND THE SERVICE OCCUPATIONS, OR TO THE INCREASED DEMAND FOR SKILLED WORKERS. ONE OF THE FREQUENTLY OFFERED SOLUTIONS FOR UNEMPLOYMENT IS MORE EDUCATION AND TRAINING, BUT THIS DOES NOT NECESSARILY HAVE TO TAKE PLACE IN COLLEGE. STUDIES SHOW THAT IN COMMUNITIES WHERE STUDENTS WERE NOT OFFERED ADEQUATE VOCATIONAL PROGRAMS, THE DROPOUT RATE WAS THREE TIMES AS HIGH, AND THE UNEMPLOYMENT RATE WAS EIGHT TIMES AS HIGH AS IN AREAS WITH SUCH EDUCATIONAL OPPORTUNITIES. AREA VOCATIONAL SCHOOLS, COMMUNITY COLLEGES, UNIVERSITY BRANCHES, AND BUSINESS, LABOR, AND OTHER PRIVATE PROGRAMS ARE OFFERING CAREER TRAINING IN INCREASING AMOUNTS, BUT THE PROBLEMS OF INADEQUATE CAREER INFORMATION, INADEQUATE INDIVIDUAL FITNESS EVALUATION, INADEQUATE TRAINING FACILITIES, AND A LACK OF FINANCIAL PLANNING TO FACILITATE TRAINING PROGRAMS STILL EXIST. DOCUMENTS DISCUSSING TRAINING ALTERNATIVES ARE VT 001 354 - VT 001 358. (EM)

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OCCUPATIONAL EDUCATION AND TRAINING FOR TOMORROW'S WORLD OF WORK

NO. 1 SQUARE PEGS AND ROUND HOLES

A Series of Publications by the North Central Extension Public Affairs Subcommittee on Providing Occupational Education and Training Opportunities

1965

BY JAMES T. HORNER
Associate Professor, Vocational Education, University of Nebraska
AND EVERETT E. PETERSON
Agricultural Economist, University of Nebraska

YESTERDAY'S EDUCATION is not sufficient to prepare today's people for tomorrow's world of work. The greatest scientific and technological revolution in the history of man is now in progress. For the most part the changes wrought by this revolution have produced phenomenal growth and progress. Changes in the way an industry produces a commodity have brought about changes in the way a man can earn a living. They have left many men at the brink of economic and personal failure. Somehow men must adjust to the changes; they must find a new way to make a living. They too must change. Some do, and many do not.

The joblessness that results from people's inability to change and develop the skills as required by the changing world of work is called "structural unemployment." This is the particular problem that characterizes youth's quest for jobs today. Older workers face it too; and it will be a problem for both young and old as long as change and progress characterize our economy.

Purposes of this Series

This is the first in a series of six publications on providing and financing facilities for *Occupational Education and Training* for *Tomorrow's World of Work.*

THE MAIN PURPOSES of this series of publications are:

1. To create awareness of a serious "educational gap" in our nation;
2. To clarify the population, labor force, occupational and employment situation for students, parents, teachers and counselors, business and industrial leaders, workers and the general public; and
3. To review existing occupational education and training programs and suggest alternative patterns of organization, financing and long-range planning for programs to bridge the gap between people and jobs.

These first two objectives are emphasized in this publication. The other five publications in the series concentrate on the following alternatives:

— High schools
— Area vocational schools
— Community and junior colleges
— University programs
— Business, labor and other private programs.

The Problem

A major problem of American youth today is that of qualifying for, and holding, a job — one that will help them to achieve economic security and to live satisfying, successful, and useful lives as family members, workers, and citizens. The problem has always been a critical one; it is aggravated in the present decade by revolutionary advances in knowledge and technology that keep the nation's business and industrial complex in a continuous state of change.

More than 80 percent of our labor force are employed as farmers, industrial workers, sales and clerical workers, and in other non-professional and service occupations and only one in five is employed in professional, technical, managerial, official, and proprietor occupations, which generally require a college education. However, more than 80 percent of the students in our high schools and junior colleges are enrolled in general or college preparatory programs.

General education is not enough for the great majority of people who must operate our farms, machines, shops, and offices and provide our services. More and more occupations require skills and specialized knowledge for which there must be education for youth and retraining for adults.

The economic and military strength of our nation is as dependent upon occupational proficiency and vocational education as is political and social stability on good citizenship and general education. Any nation which really wants to increase its wealth and raise the living level of its people must expand and improve its facilities for education and training, including comprehensive programs of vocational and technical education.

Sharp contrasts appear when relationships between natural resources, technical training and incomes of countries are compared. For example, Colombia, S.A., has great resources

Publications in this series are subtitled: No. 1 — Square Pegs and Round Holes; No. 2 — High Schools; No. 3 — Area Vocational Schools; No. 4 — Community and Junior Colleges; No. 5 — University Programs; and No. 6 — Business, Labor, and Other Private Programs.

— oil, minerals, rich land, and a fine climate; but with low education and technical training, she has low income per person. Denmark with her high level of technical education enjoys a high per capita income despite sandy soil, a short growing season, and few mineral resources.

"Education is the cornerstone of our freedom. Education is the key to our social and economic and technological and moral progress . . . Modern demands upon labor and industry require new skills and an upgrading of old skills, more education and greater knowledge . . ." — President Lyndon B. Johnson.

The Labor Force

An unprecedented growth in the U.S. labor force is occurring during the 1960's. The most dramatic growth is in the 14- to 24-year age group as the post-war baby crop "comes of age". From 1950 to 1960 this age group increased by less than a million; between 1960 and 1970 it is expected to increase by more than 6 million.

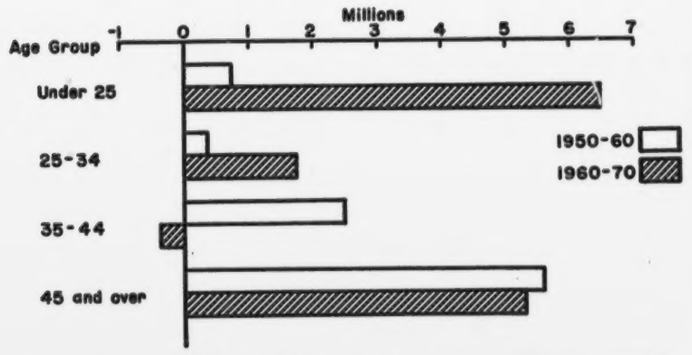

Fig. 1 — Changes in the number of workers in each age group, (1950-60 and 1960-70).

The total labor force in 1970 will be about 87 million. The 26 million young workers who will enter the labor force between 1960 and 1970 are far more than the country has ever had to educate and absorb into employment in any previous decade. The increasing size of the group is certain to mean increased competition for jobs, especially for the kinds of jobs in which young people normally find employment. At the same time, 3 million more women will enter or re-enter the labor force. The remaining 58 million are working now, and will be still working by 1970. Thus, facilities will need to be provided for the continual training or retraining of 10 to 15 million workers to keep pace with new methods, materials and opportunities. Others will need to be trained for new jobs. The need for good educational preparation and occupational training by these people will be intensified by rising educational requirements for many kinds of work and by the narrowing of opportunities for employment in the less skilled jobs.

A rising tide of youth will reach 18 years of age annually during the 1960's. Of the net increase of about 13 million workers, 90 percent will be in the youngest and the oldest age brackets. These are the age groups in which employment problems are the greatest in 1965, and will be for the next 10 years. By 1970, there will also be about 30 million women workers, more than one-third of the labor force.

Dropout Problem

If present trends continue, eight out of ten children now in elementary school will not finish four years of college even though college enrollments will double. Of every ten youngsters now in grade school, three will go to work before finishing high school, an additional three will go to work after finishing high school, and two more will drop out of college to go to work.

Imagine yourself at 18, perhaps married and a high-school dropout, without special training, with less than a subsistence income and your job being eliminated by automation. Shopping at the display window of job opportunities would result in a feeling of frustration similar to that of window shopping without any money to spend.

Mobility

Unless young people are able to increase their mobility through additional training, they will probably become part of the future hard core of unemployed workers. Modern growth industries tend to locate in the established centers of the East and in the newly developing educational and industrial centers of the West and the Southwest rather than in the rural areas of the South and Midwest. An important factor in reducing unemployment in rural areas is increased mobility of workers. If workers can move easily across the country (geographical mobility), or move from one kind of job to another (occupational mobility), total unemployment will be kept at a lower level.

Mobility alone will not guarantee reduced unemployment and improved family living. Moving from a farm job to a nonfarm job may not mean that the man is going to be better off than he was before unless his training permits him to obtain a higher-paying job. There are moving costs, and often business losses. School, health services, utilities, and other community services are changed when people move. Family ties and obligations cannot be lightly dismissed.

Knowledge of opportunities is of little benefit to the individual or the nation, *if the individual is not qualified* for the job available. Similarly, competence for a job is of little value to the individual and the nation without knowledge of opportunities. More effective dissemination of information on job opportunities and qualifications required might lead to a better matching of the individual's education with the jobs available.

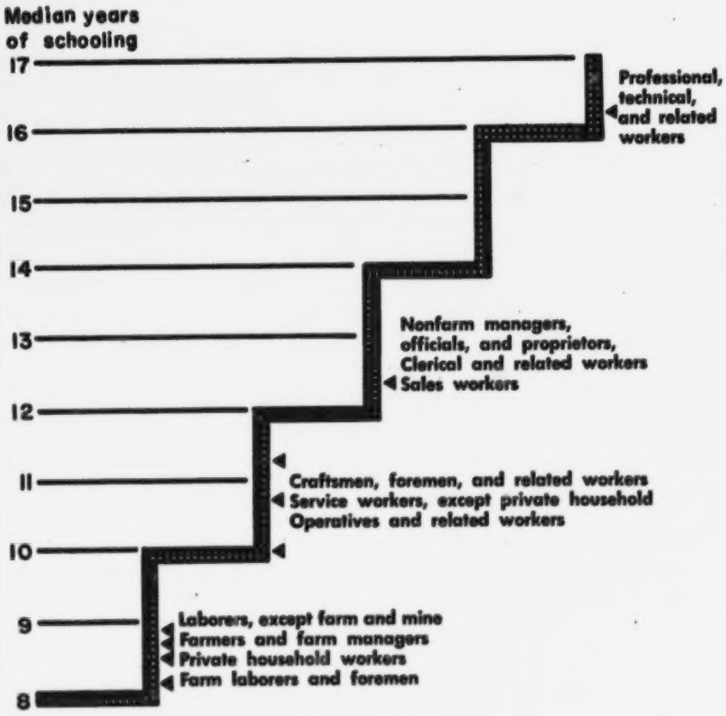

Fig. 2 — Median years of school completed by major occupational groups (March 1962) (U. S. Dept. of Labor).

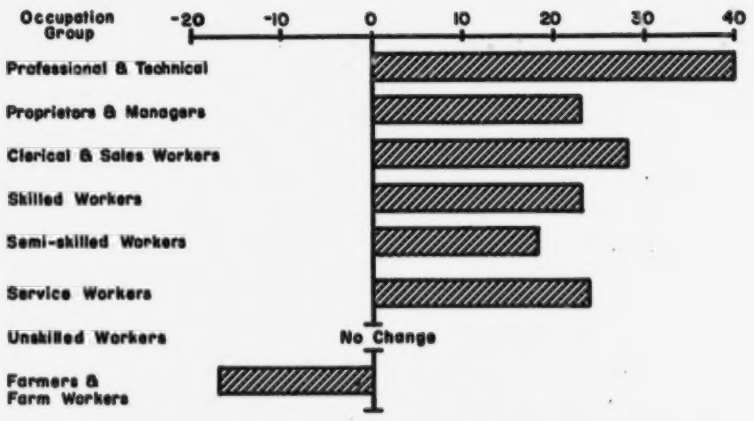

Fig. 3 — Percent change in employment, by occupation class (1960-70).

Occupational Portrait

While in colonial times most people in America were engaged in farming, fishing, hunting, lumbering, quarrying and home making, there are now more than 22,000 different occupations known by over 40,000 different job titles. The nation's more than 70 million workers are employed in jobs ranging all the way from the so-called unskilled occupations to the professions requiring years of specialized training. The process of specialization is continuing, and with it comes not only new and different jobs or vocations, but also many far-reaching social and economic changes. Those who adapt to change usually gain in income and personal satisfactions. For those who do not, the cost is usually great. This cost is borne by every American in terms of higher consumer costs, increased welfare costs, and loss in productive resources due to under-employment or unemployment.

Service occupations are expected to continue to show a much more rapid rate of growth than are those producing goods. Numbers of employees in service areas will likely increase more than 25 percent during this decade. The manpower requirements will be mainly for highly skilled and well-educated workers. Within manufacturing, the major employment increases will continue to be white-collar-professional, administrative, clerical, and sales — rather than in the manual occupations.

Rural Youth

Agriculture has undergone major shifts in resource use. Although declining in numbers, there are still profitable employment opportunities in farming for those who have the skills, capital and managerial abilities to compete. Off the farm, higher levels of activity in farm supply and marketing businesses create the need for more machinery or equipment salesmen, equipment repairmen, dairy plant technicians, produce graders, hatchery workers, etc. These "agribusiness" jobs often require a knowledge of technical agricultural subjects and a general understanding of agricultural processes. More educational and training opportunities are needed for such jobs which many rural youth will eventually seek to occupy.

The expected continued decline in numbers of farmers and farm workers needed to serve a growing population reflects the great strides made in farm productivity through the use of machinery and technology. Young farm people should be fully aware of these trends and of the growing demand for employment in other areas. This information will help them decide what vocation to prepare for and what education they will need to qualify for satisfying, high-paying jobs.

The people of the North Central States, which are quite rurally-oriented, might well consider the following excerpts from A. O. Haller's *Rural Youth Need Help in Choosing Occupations.*

> *"The evidence is quite clear that, on the average, rural schools are still not doing as effective a job of preparing youngsters for the world of work as urban schools. We need to expand the facilities for providing instruction basic to all types of work in which young people will engage. It is taken for granted that college preparatory courses are satisfactory for those entering college, but a basic training program for others is not so easy to visualize . . . rural youth — including farm youth — are on the average somewhat less well prepared for successful entry into the occupational world than are urban youth. Their college and occupational aspirations are lower. They also are less successful than urban youth in the sense that they have more trouble getting a permanent job and that their jobs are not as good.*
>
> *"Rural youth also tend to be less well-educated. The schools they attend are not as adequately staffed and equipped on the average as are the urban schools. They tend to drop out of school at an earlier age."*

Regarding the under-representation from some rural-farm areas in applications and winners of National Merit Scholarships, Dr. T. W. Schultz, a University of Chicago economist, says:

> *"Judging by the poor chances of winning scholarships by those who apply from these areas, it probably is a lack of quality of the schooling . . . The proportion of high school graduates who enroll in college points in the same direction. In 1960, 48 percent of the urban high school graduates enrolled in college compared to only 32 percent of those classified as rural farm."*

Jobs and Unemployment

More population means a larger labor force; this, with economic growth, means increasing employment, but unemployment is also rising. Though paradoxical, a newspaper headline might read: "Sharp increase in employment establishes new record while unemployment continues to mount."

Approximately 5 percent of the U.S. civilian labor force, or about four million persons, were unemployed in 1965. These figures indicate that the economy is not fully utilizing its human resources.

Many of the jobless have been replaced by machines. While automation eliminates some jobs, it also creates new ones. We can ill afford to allow machines to displace people — either in agriculture or industry — without providing those people with the opportunity to find and qualify for other employment. An unemployed young worker, older worker, or non-white worker may have poor prospects for employment. If he is also unskilled, he will experience serious difficulty finding work in the job market of the future.

Unemployment among young workers has consistently been higher than for the rest of the labor force because of the problems which face new workers entering the labor force: lack of training; little identification with an industry; inadequate knowledge of the labor market; and increasing vulnerability to layoff due to lack of seniority. Young workers are entering the labor market today in rapidly increasing numbers, and the unemployment rates for these age groups are also increasing very rapidly. The highest rate of unemployment is found among job seekers 16 and 17 years of age. High school dropouts experience two to three times as much joblessness as do graduates.

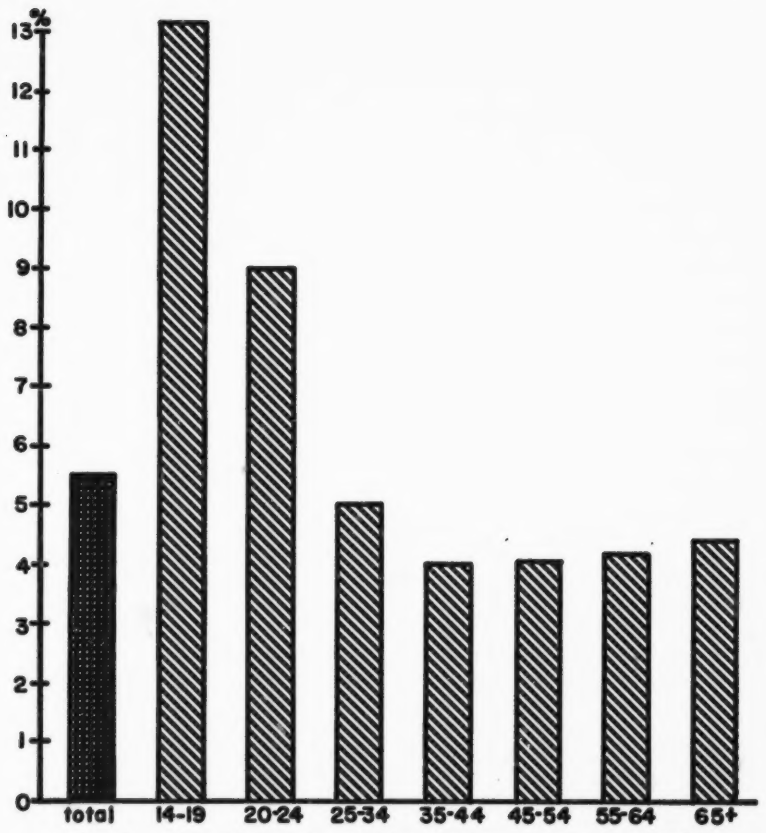

Fig. 4 — Unemployment rates (percent) by age groups (1962).

While chronic unemployment persists, an ironic dilemma exists: Many employers are looking for skilled help but cannot find it. Though the causes of unemployment are as complex as the economic system itself, an inexcusable tragedy appears in the fact that the number of available, but unfilled, skilled jobs in the United States is generally equal to the number of those who are unemployed because they possess no skills. For the individual himself, the lack of salable skill is perhaps the most common cause of unemployment. Tragedy arises where the public and public officials have not helped him adjust to the new vocational demands. So the choice may be either to acquire a salable skill or settle down on public welfare as a way of life. In most cases, the unemployed needs help from an alert and sympathetic public if he is to acquire the salable skill.

School dropouts who often are not able to overcome their disadvantages, continue to suffer from considerably more unemployment than high school graduates. Even when they find work, it is frequently in less desirable jobs than those held by high school graduates. Labor Secretary Wirtz put it this way,

> *"A boy or girl who drops out of school today without an elemental skill comes awfully close to committing economic suicide; for the number of unskilled jobs is getting smaller and smaller every year."*

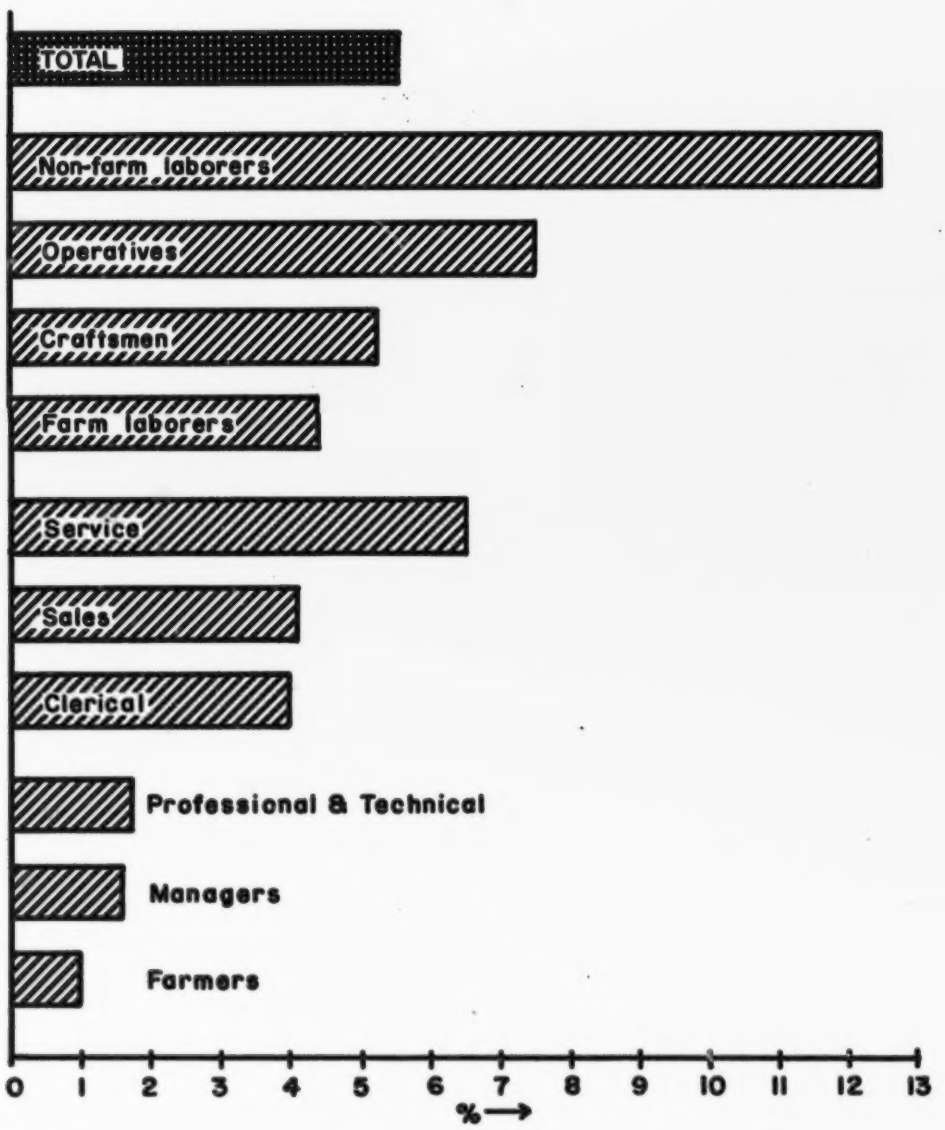

Fig. 5 — Unemployment rates (percent) by occupational groups (1960).

The unemployment picture represents merely the visible part of an iceberg. There remains larger, less obvious danger. No one would knowingly allow a youngster to carry dynamite around. Yet, we would agree with Dr. Conant that the mass of out-of-school youth who are also out of work are "social dynamite". The *Saturday Evening Post*, March 10, 1962, clearly stated the problem in these few words:

> *"We waste more than a million kids a year. As we once wasted natural gas and forests and topsoil, today we waste our most valuable resource — the productive brains and muscles, the creative power of young imaginations and emotions. We waste them because we neither keep them in school nor give them jobs."*

Adjusting to Change

The key word for many workers is *change*. To help them cope with the process of change and its consequences more emphasis must be placed on adult and continuing education. Many of the older unemployed and potentially unemployed are in unskilled types of jobs which are being eliminated. They must learn a new trade. Unfortunately, many of them were school dropouts. Milwaukee has one of the best vocational education systems of any large city in the United States. The fact that its school dropout rate is only 5.5 percent compared with a United States average of near 40 percent, is due in part to the excellent vocational education opportunities it offers.

One measure of the effectiveness of the educational program and of the efforts to keep youth in school is the proportion of pupils being graduated from high school. The high school graduates expected in 1964-65 as a percent of the ninth-grade enrollment in 1961-62 (see table) range from 89 percent in California to 57 percent in New Mexico; the national average is 74 percent. To complete the picture, it should be noted that about one-third of the dropouts leave school before they enter the ninth grade.

The Place of Occupational Training

Americans believe in the dignity of the individual. This includes the dignity of work and opportunities for maximum development and use of one's capabilities. We are committed to education for all. A school system which meets the needs of the few no longer satisfies us nor meets the needs of the nation. Education for skilled and semi-professional jobs

Table 1. High School Graduates 1964-65 as Percent of Ninth-Graders 1961-62, North Central Region.

STATE	PERCENT	U.S. RANK
OHIO	86.2	2
MINNESOTA	85.6	3
NEBRASKA	81.5	11
NORTH DAKOTA	78.6	14
MICHIGAN	77.3	16
INDIANA	76.6	20
SOUTH DAKOTA	73.9	22
ILLINOIS	71.0	24
KANSAS	67.6	26
MISSOURI	66.4	31
WISCONSIN	65.8	34
IOWA	63.6	39
U.S.	73.9	

Source: Research Report 1965 R1, National Education Association, Washington, D. C., January 1965.

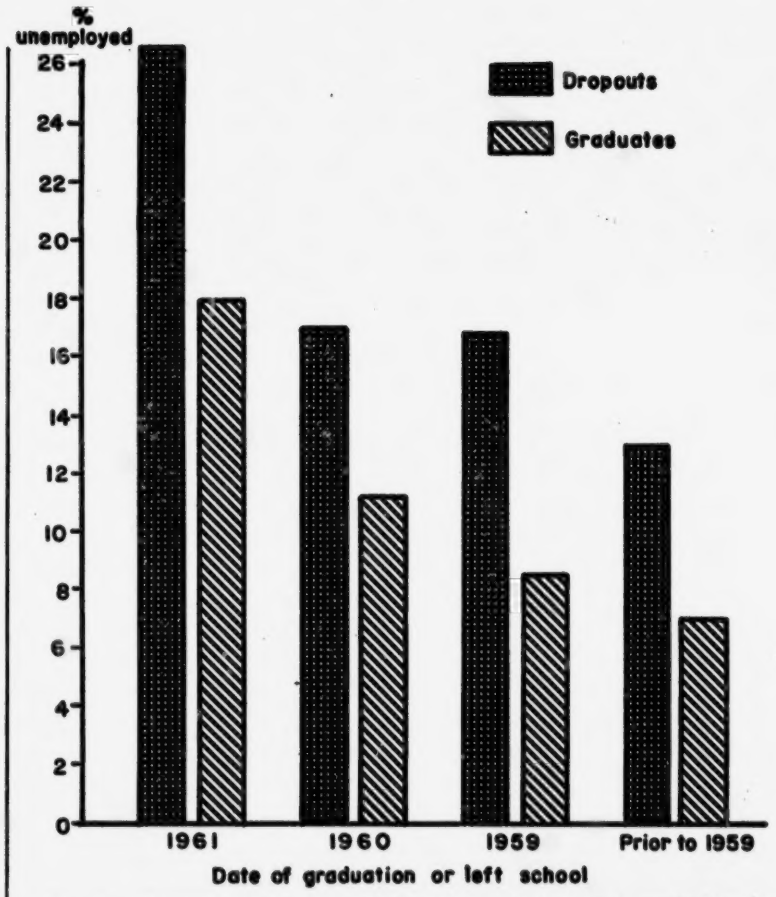

Fig. 6 — Unemployment rates (percent) for high school graduates (not enrolled in school or college) and for dropouts, ages 16 to 24 (October 1962).

should be held in as high regard as education for the professions.

One of the most frequently offered solutions for structural unemployment is more and better education and training. This solution is more complex than it first appears. More schooling does not necessarily mean going to college. Not everyone need go, or should go, to college. There are many educational activities that can offer rewards in job satisfaction and income.

Studies show that in communities where students are not offered adequate vocational programs, the dropout rate was three times as high, and the unemployment rate was eight times as high, as in areas with such educational opportunities. The evidence seems to point to the need for expanded occupational training and education.

In his message to Congress, February 20, 1961, the late President Kennedy stated:

> *"The basic purpose of our vocational education effort is sound and sufficiently broad to provide a basis for meeting future needs. However, the technological changes which have occurred in all occupations call for a review and re-evaluation of these Acts, with a view toward their modernization."*

The limited clientele for which vocational technical education programs have been provided is a matter of great concern. This is especially true with regard to programs for women, even though millions of young women become wage earners, both before and after marriage.

The Presidential Panel of Consultants on Vocational Education pointed out that of 3,733 public high schools surveyed in six states, only 5 percent offered Distributive Education; only 9 percent, Trade and Industrial; and less than 50 percent offered Homemaking or Vocational Agriculture. Six years later a study of job training and subsequent employment showed that only *one* boy had studied vocational agriculture for every *ten* employed in that field. Only *one* was trained

in distributive education for every *two hundred* employed in wholesale and retail trade, and only *one* in trade and industrial education for every 222 employees in that field. The ideal ratio in each case would be one to one.

While most schools seem to do an adequate job of general education, many fall short on helping students to recognize and develop their full capabilities. Proper occupational education and guidance can reduce wasted time, minimize teenage frustration, and enable a student to prepare for a productive and useful life for himself and his family. Since relatively few people are trained in counseling, professional job counseling may be inadequate. Still too few people are interested in counseling and in vocational teaching as a career.

The Presidential Panel recommended increased federal support of vocational education, including $400 million annually to provide greater educational opportunities for the following four specific groups:

1. **Youth in high school.**
2. **Youth with special needs.** This program would focus on potential school dropouts, who come largely from disadvantaged socio-economic groups within the population.
3. **For youth and adults** who have completed or left high school and are full-time students preparing to enter the labor market.
4. **For youth and adults unemployed** or at work who need training or retraining to achieve employment stability.

Expense or Investment?

Effective programs to combat unemployment are costly. But society pays a much higher price for unemployment in terms of youth delinquency and the waste of the abilities of thousands of citizens who cannot find their proper place in society. Even at $600 a year per student, plus outlay for laboratories and shops, education is a bargain when contrasted with, say, $1,800 a year to keep a delinquent juvenile in a detention home, or $4,000 a year to hold a criminal in the state penitentiary, or $2,500 a year to provide relief for an unemployed worker and his family. The loss of productivity to society and the loss of income to the individual are additional costs (opportunity costs).

Dr. T. W. Schultz of the University of Chicago gives this principle for deciding whether to invest more in education: "Once we decide to treat this schooling as an investment, the test that matters is the *rate of return* to be had on this particular investment." He illustrates the application of this principle to rural education as follows:

> *". . . there is a growing body of evidence which indicates that there is serious underinvestment not only in the amount but especially in the quality of schooling that our farm children obtain . . . nor do the alternative investment opportunities in farming come even close in terms of pay-off to that already indicated for schooling. Investment in land is large although the rate of return is in the neighborhood of 5 percent, compared to the 30 percent or larger rate of return to be had from the schooling under consideration. Tractors, modern farm machinery, high producing livestock, and fertilizer may earn in many situations a higher rate of return than land and land improvements, but surely not nearly as high a rate of return as schooling. Certainly by this test, many farm families are not choosing wisely among the investment opportunities open to them. Many could improve the long run wealth and income positions of their families by reallocating what they presently invest annually. They could commit less to capital forms used in farming and thus somewhat more to the schooling of their children. The inference is that on rational economic grounds, they cannot afford to do otherwise."*

Table 2. Income and Expenditure Per Pupil in Average Daily Attendance (ADA), Public Schools, 12 North Central States

State	Average personal income per school age child (5-17) 1963		Estimated current expenditure per pupil in ADA 1964-1965	
	Amount	Rank of State	Amount	Rank of State
ILLINOIS	$11,870	7	$551	8
WISCONSIN	9,047	24	532	11
MINNESOTA	8,766	28	528	12
MICHIGAN	9,513	18	510	15
INDIANA	9,348	19	490	19
OHIO	9,649	15	469	23
IOWA	9,051	23	465	24
KANSAS	6,911	27	462	25
MISSOURI	10,293	11	437	29
NORTH DAKOTA	7,303	36	422	31
SOUTH DAKOTA	7,202	38	416	33
NEBRASKA	9,149	20	407	34
U.S.	9,616		483	

Source: National Education Association, Research Report 1965 R1, Op. Cit.

The amount of money spent on schools is a rough measure of the quality of education. The Research Division of the National Education Association publishes such data annually on a state-by-state basis. Information on per pupil income and expense for the 12 North Central States is shown in Table 2. The table indicates that some states are contributing proportionally more of their potential wealth than others.

The N.E.A. report summarizes:

> *"It is estimated that in the U.S., 1964-65, on the average $483 per pupil in average daily attendance will be paid out in current expenditures: the largest amount in New York, $790, the smallest amount in Mississippi, $273. Eighteen states are spending over $500 per pupil; another 18 states, $400 to $500, 11 states, $300 to $400; and three states, less than $300 . . . On the average, public-school revenue in 1963-64 was equal to 4.4 percent of total personal income in 1963, but ranged from 6.7 percent in New Mexico to 3.1 percent in Massachusetts."*

Summary

One of our most crucial domestic problems is that of matching people and jobs. Since education and re-education is the means to employment in our society, we must either educate our people so they become productive or eventually support them in some manner.

We call specific attention to certain problems:

1. Inadequate information about job and career opportunities.
2. Inadequate counseling and testing to determine fitness of the individual for specific vocation.
3. Inadequate vocational training facilities to equip a person for the vocation of his choice.
4. Lack of financing plans to facilitate training programs.

Important developments such as population growth, school dropouts, and technological advances contribute to the need for expansion and improvement of vocational and technical education. Meeting this need cannot be put off until tomorrow! Economic growth of a nation is inseparably interwoven with employment, and results largely from improved

knowledge and skill through education. It is no accident. It requires conscientious planning.

The real challenge is whether our citizens will be well enough informed about our economic and occupational problems to make their decisions on possible solutions and to develop the public policies for the best as they see it. The responsibility to exert positive leadership lies upon the shoulders of local leaders. It is imperative that we recognize the gap in educational opportunities, together with the loss of manpower and brainpower as truly one of the greatest single problems of our day. Adequate occupational education can be the individual's gateway to opportunity, and the highway to a growing economy and prosperity for a state or nation.

Alternatives for Action

Each level of education should prepare the learner for his next role in life — whether immediate employment or further education. Educators, parents, employers, labor organizations and public officials face the challenge of providing expanded educational and training opportunities to prevent the chronic unemployment of young and displaced persons from becoming a major problem in the years ahead.

Several alternative approaches are possible. They include the following:

1. **Maintain the status quo.** This is probably not only unrealistic but also impractical and undesirable;
   or expand occupational education training through:

2. **High schools.**

The typical American high school has directed its major effort to meet the needs of only a minority of its students and is neglecting many of the educational and training needs of the rest. Thus a large proportion of our youth is hampered in finding and holding employment because of insufficient vocational preparation in high school. Millions of youngsters will drop out before completing high school. Many of these youths would complete their high school education if the schools provided counseling and an opportunity to learn a skill which is in good demand.

Although high schools cannot be expected to prepare individuals fully for employment, they can provide a systematic and thorough introduction to many broad fields of endeavor. Instruction designed to improve the status and efficiency of adults already employed can also be provided. Youth and adult programs include (a) trade and industrial education, (b) home economics education, (c) distributive education, (d) agricultural education, and (e) business and office education.

Many individual high school districts are not large enough to afford an adequate vocational education program. They can only do so through cooperation with other schools and training centers in the area.

Publication No. 2 discusses how occupational education in the high school might meet the challenge of preparing students of today for tomorrow's world of work.

3. **Specialized area vocational schools.**

The prime objective of specialized area vocational schools is to provide adult men and women with marketable skills. Trainees must be able to go directly from school to a job at the production level. Imagine the joy of the unemployed Indianapolis girl who got a job at $1.90 an hour as an industrial artist after only five weeks of training.

People to be trained in these schools include many high school graduates, high school dropouts, college dropouts, youth returning from military service, women entering or re-entering the work force, older men or women replaced by machines, and those of all ages who want to up-grade themselves through further training. Age, background, mental and manipulative skill potential, motivation and backgrounds vary widely. Many are married and need income as soon as possible.

The modern vocational school resembles a "training factory". Quality training programs require modern machinery and equipment, almost duplicating that found in a factory. Such equipment is expensive. Equipment costs per student are reduced and more students accommodated by operating schools 2 or 3 shifts a day, 12 months a year. Teachers in these schools must have demonstrated ability in the skills they teach. Training programs include both simple trade skills and complex technical skills requiring 2 or 3 years of training. Programs include intensive counseling, sequential training, much individual attention, student evaluation reports, and team teaching systems.

This approach is considered in publication No. 3.

4. **Community and junior colleges.**

Post-high school education is booming, and the fastest growing institutions are the community-junior colleges. Today, one of every four persons starting college goes to junior college. Soon, every second college student will be enrolled at a junior college!

The growth of the junior college movement in the United States and the expansion of junior colleges into multi-purpose community colleges have opened new opportunities for occupational education. The maturity of the students in such institutions, the potential for serving needs over reasonably wide geographical areas, the wider tax base for the support of the institution, and other factors combine to provide opportunity for the community college to make substantial contributions to this field.

Many communities have turned to the comprehensive community two-year colleges as the best single means of (a) accommodating the demands for higher education, (b) providing for the variety of abilities represented in the students graduating from high schools and (c) providing the education necessary for an emerging group of semi-professional and technical occupations.

Publication No. 4 discusses such matters in some detail and describes the community-junior colleges and answers such questions as: What do they teach? Who may attend? Where are they located? Should every town have a junior college?

5. **University programs.**

The university is broadening its curricula as new scientific information becomes available. This is occurring both upward and downward: upward in the sense of providing more training and education for careers requiring highly specialized mental capabilities, and downward in that the university is increasingly educating and training people in vocational and technical careers.

A large part of the increase in vocational and technical training is occurring at branch campuses or extension centers. For the most part, these are located at population concentrations away from the university's main campus. These centers were initially developed in response to a need for low-cost college education for "regular" students. In view of our present gaps in vocational and technical training opportunities, it is little wonder that of the 221 permanently located extension centers in 39 states, 22 are primarily technical institutes.

These institutes, in addition to preparing students for further professional study at the parent university, are providing education and training for so-called para-professional workers.

These are people not as highly trained in mental capability as the professional, but more in the manual skills of specialized support tasks. Also, more and more of these institutes are moving in the direction of providing vocational "how to do it" training, i.e. training for jobs which require manual skills almost exclusively.

With institutions of higher learning providing more vocational type training, excessively narrow trade programs can be avoided. However, they may run the risk of "becoming engulfed in the 'academic' atmosphere".

This alternative is discussed in Publication No. 5.

6. Business, labor and other private programs.

In addition to the programs offered through public education, many opportunities for occupational education and training exist in the private sector of our society. These include business and industry programs, union apprenticeships, courses offered by private business and technical schools, home study courses and the vocational programs of some private organizations.

Training opportunities in industry vary by size and type of industry and, of course, exist only for those persons employed. Relatively few persons in the total labor force are trained in formal industry programs. Informal training and retraining and company orientation programs are more commonly available. Union apprenticeship programs operate in a limited number of trades, principally in the building, metal and printing trades. Cooperative arrangements between public educational institutions and industry enable communities to benefit from the unique contributions of each in occupational education and training programs.

Privately owned and operated business, technical and vocational schools offer a variety of courses leading to employment in business and industry or to self-employment. Secretarial and business courses are the most numerous. Home study courses in a number of fields offer opportunities for occupational education at home. Evaluation of such institutions offering courses in residence or through correspondence rests upon their academic reputations and job placement records.

While the occupational training programs of private organizations and institutions are limited in number and are often aimed at rehabilitation, they perform a valuable function in occupational education.

For more details on this approach to occupational education and training, see Publication No. 6 in this series.

NORTH CENTRAL EXTENSION PUBLIC AFFAIRS SUBCOMMITTEE FOR PROVIDING OCCUPATIONAL EDUCATION AND TRAINING OPPORTUNITIES

John S. Bottum, Agricultural Economist, Ohio State University; *Norbert A. Dorow*, Agricultural Economist, North Dakota State University; *John O. Dunbar*, Extension Economist, Purdue University; *Donald Gregg*, Extension Publications Editor, Michigan State University; *George L. Hall*, Director, Midwest Community College Leadership Program, University of Michigan, Michigan State University, and Wayne State University; *James T. Horner*, Associate Professor, Vocational Education, University of Nebraska; *Arthur Mauch*, Agricultural Economist, Michigan State University; *Everett E. Peterson*, Agricultural Economist, University of Illinois; *Doyle Spurlock*, Public Affairs Specialist, Federal Extension Service; and *Robert W. Thomas*, Economist, Iowa State University.

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